

Speed up of the oil saturation numerical algorithm for the plane-parallel filtration

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Abstract

© 2015 A.I. Shangaraeva and D.V. Shevchenko. In this article we introduce the speed up of numerical calculations for the transport equations by the explicit finite difference scheme with the local Courant number. Approximate method for solving the problem is proposed. Verification of the proposed algorithm is performed by comparing the analytical and numerical solutions (in usual and speed up cases) for the plane-parallel filtration. The numerical results for the model problem are given together with their analysis.

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Keywords

Development of the oilfield, Difference scheme, Hydrodynamic simulation, Iterative method, Mathematical simulation, Speed up the calculations